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- Anschrift des Verfassers:* Prof. Dr. E. KULZER, Zoophysiologisches Institut der Universität, 7400 Tübingen, Hölderlinstraße 12

The Occurrence of a "Pale-pelage" Mutant in the Rice Rat, *Oryzomys palustris natator* (Chapman), of the Dundee Colony

By B. J. A. NOWOSIELSKI-SLEPOWRON

Department of Biological Sciences, The University, Dundee, Scotland

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During an investigation of the longevity and fecundity of the Dundee rice rat colony (PARK and NOWOSIELSKI-SLEPOWRON 1972) the individual record cards revealed the presence of five members distinguishable by a yellowish-white pelage — regarded for

purposes of identification as "pale-pelage". The information showed that only those rats which survived to the post-weaning period of development had been recorded:

- No. 75, Male – Characterized by a pale-pelage, otherwise normal apart from being slightly smaller. Mated twice with No. 60, female and produced two litters from which there were no survivors. This rat lived for 14 months.
- No. 154, Female – Displayed a pale-pelage, was small and obviously retarded in size. Survived some 30 days.
- No. 154, Female – Pale-pelage, very small in stature and survived 2.5 months.
- No. 204, Female – Similar appearance to that above with a survival period of 3.5 months.
- No. 253, Male – Identical appearance to that above and surviving for the same length of time – 3.5 months.

Although measurements of these rats were not available, the notes recorded at the time of observance were sufficient to indicate that four out of the five animals could not be regarded as being within normal growth limits. Not only were they noted as being small relative to age, but the survival rate to maturity was also low.

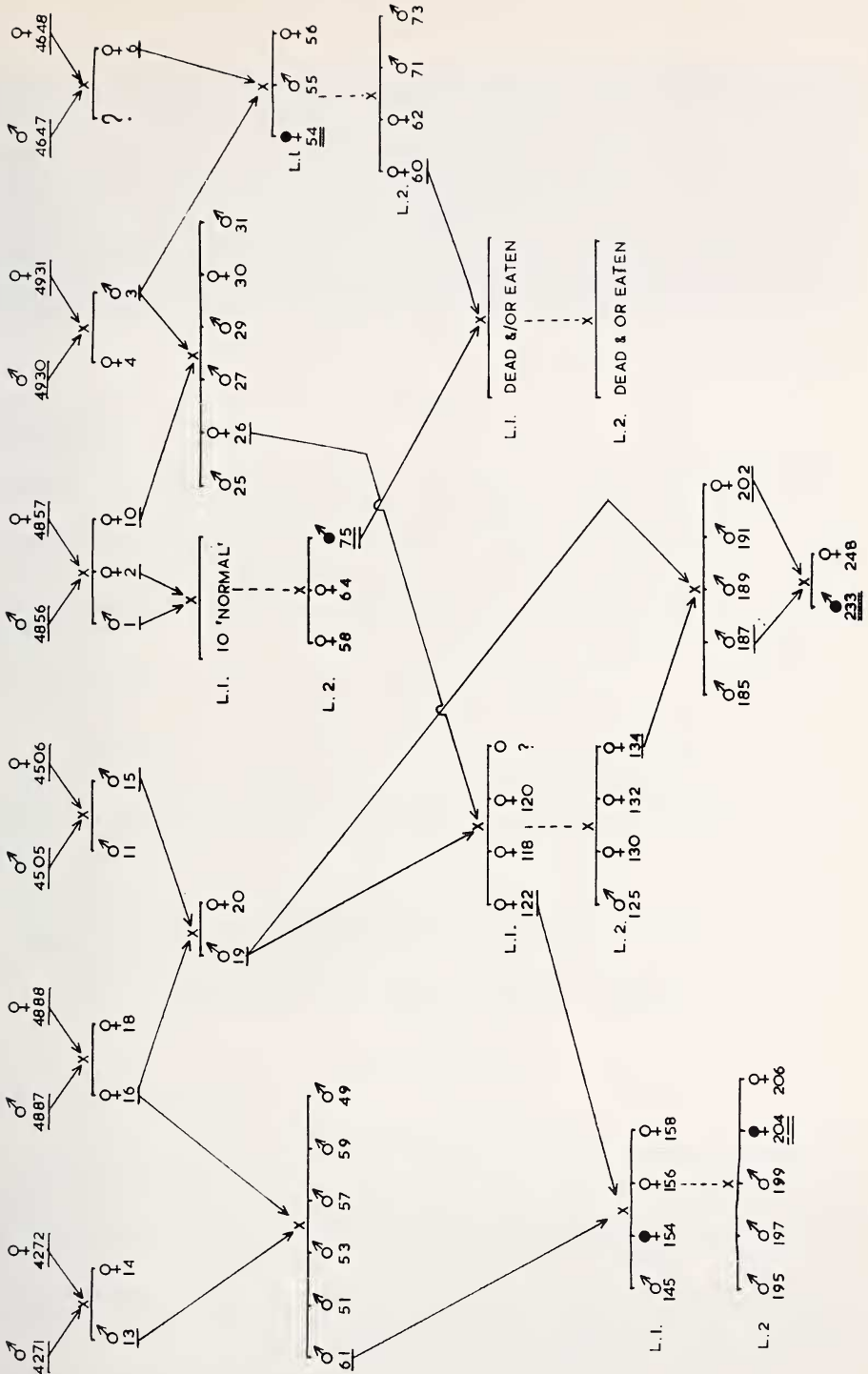
Information gleaned from the animal technician showed that throughout the breeding history of the rice rat colony, further occurrence of pale-pelage animals had been observed, but that since these did not survive weaning detailed records had not been filed.

The occurrence of mutants carrying fused and supernumerary molar teeth among members of the rice rat colony (Harvard) has been noted by GRIFFITHS and SHAW (1961), SHAW, GRIFFITHS and OSTERHOLTZ (1963) and SOFAER and SHAW (1971). The present indications are that pale-pelage rice rat constitutes a second type of mutation and therefore is of importance since the Dundee colony is derived from a breeding nucleus imported from the Harvard group. The possibility also exists that this pelage mutant may emerge among the members of the daughter colonies established with rats from Dundee in London and Copenhagen.

In order to assess the heritability of the pale-pelage condition, a pedigree chart (Fig.) was constructed covering all the known representatives and tracing their origins to the original Harvard breeding nucleus sent to Dundee.

Examination of this chart allows the following points to emerge:

1. Since there is evidence to show that some of the 12 breeding rats sent from Harvard are implicated as carriers of the pale-pelage condition, it is unlikely that the mutation arose in Dundee. The mutant was also observed to reveal itself twice in the second Dundee generation derived from three Harvard pairs (see parentage of Nos. 54 and 75).
2. The pale-pelage condition is displayed in both males and females thus rejecting the possibility of a sex-linkage. The indications tend toward a mutation of an autosomal gene. Similar events are known to have given rise to the albinism of the laboratory rat (*Rattus norvegicus*) as shown by ROBINSON (1965).
3. Evidence is available indicating that the pale-pelage mutant, in addition to affecting the coloration of the pelt, also has some deleterious systemic effects. Only five out of several survived beyond the weaning phase, and only one of these survived to reach sexual maturity which although proving to be fertile, did not leave any progeny.
4. In character the mutation appears to be recessive – see progeny of ♂61 and ♀122 (Fig.) which do not differ much from the expected heterozygous cross ratio of 3:1.
5. Departure from the expected 3:1 ratio overall, can be explained if this mutation also reflects a deleterious state in pre- and early post natal phases. The feasibility that this mutation has a wide occurrence in the colony in the heterozygous condition is therefore high.



Pedigree of pale-pelage individuals of the Dundee colony of rice rats, ♂♀ Normal phenotype, ♂♀ Pale-pelage phenotype, ○ Sex and phenotype unknown, ? Number, sex and phenotype unknown

6. Finally, the pale-pelage condition seems to be monofactorial, recessive and not due to a polygenic system.

Summary

Five pale-pelage rice rats were recorded in the Dundee colony. Examinations of data indicate that this mutation is monofactorial, recessive and autosomal.

Zusammenfassung

In der Reisratten-Kolonie von Dundee wurden 5 Exemplare mit „blasser“ Behaarung festgestellt. Die Untersuchung der einzelnen Daten weist darauf hin, daß diese Mutation monofaktoriell, rezessiv und autosomal ist.

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Author's address: B. J. A. NOWOSIELSKI-SLEPOWRON, Department of Biological Sciences, The University, Postal Code DD 1 4 HN, Dundee, Scotland

Observations sur une Troupe de Globicéphales, *Globicephala melaena* (Traill., 1809), à Tête Blanche

Par H. ALONCLE

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Le 26 août 1970, dans l'O.S.O. de l'Irlande, au cours de la campagne annuelle de prospection thonière du N.O. «La Pélagia» effectuée par l'Institut Scientifique et Technique des Pêches maritimes, nous avons eu la facilité d'observer un groupe de huit globicéphales à tête blanche. Favorisées par une mer très calme, nos observations ont duré environ une heure (11 à 12 heures). Le troupeau observé se composait d'une quarantaine de globicéphales comportant un certain nombre de femelles accompagnées de leur jeune. Comme cela est fréquent, des Souffleurs, *Tursiops truncatus* (MONTAGU, 1821), en nombre à peu près égal, étaient présents.

Notre attention a été rapidement attirée par un petit banc d'une douzaine de bêtes dont huit au moins portaient une tache blanc vif entre l'évent et la partie supérieure de la gueule. L'animal étant vu de face, la forme presque demi-circulaire de cette tache était particulièrement nette. Seule, la partie inférieure située au niveau de la